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In re Application of	
Application Number: 08/246,034	Filed: 5/18/94
Art Unit	Examiner

Paper No._____

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United States Patent Application Publication No. _____, page _____, line_____,

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(12) **United States Patent**
Platz et al.

(10) **Patent No.: US 6,509,006 B1**
(45) **Date of Patent: Jan. 21, 2003**

(54) **DEVICES COMPOSITIONS AND METHODS FOR THE PULMONARY DELIVERY OF AEROSOLIZED MEDICAMENTS**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/427,075**

(22) Filed: **Oct. 26, 1999**

Related U.S. Application Data

(63) Continuation-in-part of application No. 08/417,507, filed on Apr. 4, 1995, now abandoned, and a continuation of application No. 08/383,475, filed on Feb. 1, 1995, and a continuation of application No. 08/313,707, filed on Sep. 27, 1994, and a continuation of application No. 08/309,691, filed on Sep. 21, 1994, and a continuation of application No. 08/246,034, filed on May 18, 1994, and a continuation of application No. 08/232,849, filed on Apr. 25, 1994, and a continuation of application No. 08/044,358, filed on Apr. 7, 1993, and a continuation-in-part of application No. 07/910,048, filed on Jul. 8, 1992.

(51) **Int. Cl.**[7] **A61K 9/12**; A61K 9/14
(52) **U.S. Cl.** **424/46**; 424/45; 424/489
(58) **Field of Search** 424/45, 46, 489

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(57) **ABSTRACT**

According to the subject invention, dispersible dry powder pharmaceutical-based compositions are provided, including methods for their manufacture and dry powder dispersion devices. A dispersible dry powder pharmaceutical-based composition is one having a moisture content of less than about 10% by weight (% w) water, usually below about 5% w and preferably less than about 3% w; a particle size of about 1.0–5.0 μm mass median diameter (MMD), usually 1.0–4.0 μm MMD, and preferably 1.0–3.0 μm MMD; a delivered dose of about >30%, usually >40%, preferably >50%, and most preferred >60%; and an aerosol particle size distribution of about 1.0–5.0 μm mass median aerodynamic diameter (MMAD), usually 1.5–4.5 μm MMAD, and preferably 1.5–4.0 MMAD. Such composition are of pharmaceutical grade purity.

2 Claims, No Drawings